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Terms used

disk or disc or diskette near/8 write near/4 protect and write near/4 protect\$ near/8 failure or error or fault an

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1 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on**

Full text available:  pdf(4.21 MB)

Additional Information: [full citation](#), [abstract](#), [refer](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process of the execution of the application. The visualization tool we use is Poet, an event tracer developed very complex and do not provide the user with the desired overview of the application. In our experiments ...

2 Illustrative risks to the public in the use of computer systems and related technology

Peter G. Neumann

January 1996 **ACM SIGSOFT Software Engineering Notes**, Volume 21 Issue 1

Full text available:  pdf(2.54 MB)

Additional Information: [full citation](#)

3 RAID: high-performance, reliable secondary storage

Peter M. Chen, Edward K. Lee, Garth A. Gibson, Randy H. Katz, David A. Patterson

June 1994 **ACM Computing Surveys (CSUR)**, Volume 26 Issue 2

Full text available:  pdf(3.60 MB)

Additional Information: [full citation](#), [abstract](#), [refer](#)

Disk arrays were proposed in the 1980s as a way to use parallelism between multiple disks to improve lines of most major computer manufacturers. This article gives a comprehensive overview of disk array technology and its future work. First, the article introduces disk technology and reviews the driving forces that have p ...

Keywords: RAID, disk array, parallel I/O, redundancy, storage, striping

4 Highly available systems for database applications

Won Kim

March 1984 **ACM Computing Surveys (CSUR)**, Volume 16 Issue 1

Full text available:  pdf(2.43 MB)

Additional Information: [full citation](#), [abstract](#), [refer](#)

As users entrust more and more of their applications to computer systems, the need for systems to be highly available is even greater. This paper presents a survey and analysis of representative architectures and technologies for building highly available systems for database applications. It then proposes a design of a distributed software subsystem for ...

5 Session summaries from the 17th symposium on operating systems principle (SOSP'99)

Jay Lepreau, Eric Eide

April 2000 **ACM SIGOPS Operating Systems Review**, Volume 34 Issue 2

6 DISP: Practical, efficient, secure and fault-tolerant distributed data storage

Daniel Ellard, James Megquier

December 2004 **ACM Transactions on Storage (TOS)**, Volume 1 Issue 1Full text available:  pdf(148.11 KB)Additional Information: [full citation](#), [abstract](#), [refere](#)

DISP is a practical client-server protocol for the distributed storage of immutable data objects. Unlike many other systems, DISP allows users to make explicit tradeoffs between total storage space, computational overhead, and guarantees of consistency. Applications specify the degree of redundancy with which each item is encoded, what level of integrity is required, and how often items are stored ...

Keywords: Distributed data storage**7 BASE: Using abstraction to improve fault tolerance**

Miguel Castro, Rodrigo Rodrigues, Barbara Liskov

August 2003 **ACM Transactions on Computer Systems (TOCS)**, Volume 21 Issue 3Full text available:  pdf(438.18 KB)Additional Information: [full citation](#), [abstract](#), [refere](#)

Software errors are a major cause of outages and they are increasingly exploited in malicious attacks. Some software errors are easy to detect and fix, while others are more difficult. This paper describes a replication technique, BASE, that is designed to tolerate and to improve its ability to mask software errors. BASE reduces cost because it enables higher availability ...

Keywords: Byzantine fault tolerance, N-version programming, asynchronous systems, proactive recovery**8 Practical byzantine fault tolerance and proactive recovery**

Miguel Castro, Barbara Liskov

November 2002 **ACM Transactions on Computer Systems (TOCS)**, Volume 20 Issue 4Full text available:  pdf(1.63 MB)Additional Information: [full citation](#), [abstract](#), [refere](#)

Our growing reliance on online services accessible over the Internet demands highly available systems. Network bugs, operator mistakes, and malicious attacks are a major cause of service interruptions and the system. This paper describes a new replication algorithm, BFT, that can be used to build highly available systems that implement reliable replicated state machines ...

Keywords: Byzantine fault tolerance, asynchronous systems, proactive recovery, state machine replication**9 Reliability and security of RAID storage systems and D2D archives using SATA disk drives**

Gordon F. Hughes, Joseph F. Murray

December 2004 **ACM Transactions on Storage (TOS)**, Volume 1 Issue 1Full text available:  pdf(94.82 KB)Additional Information: [full citation](#), [abstract](#), [refere](#)

Information storage reliability and security is addressed by using personal computer disk drives instead of enterprise Fibre Channel drives. The cost of these serial ATA (SATA) PC drives is a tradeoff against drive reliability design and demonstrated performance. This article discusses the tradeoff between SATA and Fibre Channel drives, which has the advantage that the storage can be easily replicated ...

Keywords: Disk drive, SATA, SMART, archival storage, failure prediction, secure erase, storage reliability**10 Hive: fault containment for shared-memory multiprocessors**

J. Chapin, M. Rosenblum, S. Devine, T. Lahiri, D. Teodosiu, A. Gupta

December 1995 **ACM SIGOPS Operating Systems Review , Proceedings of the fifteenth ACM SIGOPS symposium**Full text available:  pdf(1.90 MB)Additional Information: [full citation](#), [references](#), [citations](#)

11 Pilot: an operating system for a personal computer

David D. Redell, Yogen K. Dalal, Thomas R. Horsley, Hugh C. Lauer, William C. Lynch, Paul R. McJones
February 1980 **Communications of the ACM**, Volume 23 Issue 2

Full text available:  [pdf\(1.14 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#)

Keywords: file, high-level language, modular programming, network, operating system, personal

12 The HP AutoRAID hierarchical storage system

John Wilkes, Richard Golding, Carl Staelin, Tim Sullivan
February 1996 **ACM Transactions on Computer Systems (TOCS)**, Volume 14 Issue 1

Full text available:  [pdf\(1.82 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [refere](#)

Configuring redundant disk arrays is a black art. To configure an array properly, a system administrator must understand the workload it will support. Incorrect understanding of either, or changes in the workload over time, can lead to problems: a two-level storage hierarchy implemented inside a single disk-array controller. In the user interface, the administrator provides a ...

Keywords: RAID, disk array, storage hierarchy

13 Distributed operating systems

Andrew S. Tanenbaum, Robbert Van Renesse
December 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 4

Full text available:  [pdf\(5.49 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [refere](#)

Distributed operating systems have many aspects in common with centralized ones, but they also differ from them. This survey is intended to introduce distributed operating systems, and especially to current university research about them. After a brief introduction, the survey discusses how it is distinguished from a computer network, various key design issues are discussed. Then several examples of distributed operating systems are presented in detail ...

14 The HP AutoRAID hierarchical storage system

J. Wilkes, R. Golding, C. Staelin, T. Sullivan
December 1995 **ACM SIGOPS Operating Systems Review , Proceedings of the fifteenth ACM SIGOPS symposium**

Full text available:  [pdf\(1.60 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#)

15 A Survey of Techniques for Synchronization and Recovery in Decentralized Computer Systems

Walter H. Kohler
June 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 2

Full text available:  [pdf\(3.33 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

16 The TickerTAIP parallel RAID architecture

Pei Cao, Swee Boon Lin, Shivakumar Venkataraman, John Wilkes
August 1994 **ACM Transactions on Computer Systems (TOCS)**, Volume 12 Issue 3

Full text available:  [pdf\(2.04 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [refere](#)

Traditional disk arrays have a centralized architecture, with a single controller through which all requests pass. This limits the maximum number of disks to which the array can scale. We describe TickerTAIP, a parallel RAID architecture that uses multiple controllers to overcome this limitation. The controllers perform parity calculations and manage disk scheduling independently. The result is better scalability, fault tolerance, and performance.

Keywords: RAID disk array, decentralized parity calculation, disk scheduling, distributed controller

17 Crosshatch disk array for improved reliability and performance

S. W. Ng

Full text available:  pdf(955.28 KB)Additional Information: [full citation](#), [abstract](#), [refere](#)

Redundant disk array architecture provides fault tolerance against disk drive failures. However, a : must also be controllers for interfacing with the disk drives, cabling for providing data/control path must also be able to tolerate failure in any one of these components. While currently known array the ...

18 Experience Using Multiprocessor Systems—A Status Report

Anita K. Jones, Peter Schwarz

June 1980 **ACM Computing Surveys (CSUR)**, Volume 12 Issue 2Full text available:  pdf(4.48 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**19 Fault Tolerant Operating Systems**

Peter J. Denning

December 1976 **ACM Computing Surveys (CSUR)**, Volume 8 Issue 4Full text available:  pdf(2.69 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index](#)**20 A taxonomy of computer program security flaws**

Carl E. Landwehr, Alan R. Bull, John P. McDermott, William S. Choi

September 1994 **ACM Computing Surveys (CSUR)**, Volume 26 Issue 3Full text available:  pdf(3.81 MB)Additional Information: [full citation](#), [abstract](#), [refere](#)

An organized record of actual flaws can be useful to computer system designers, programmers, ar for computer program security flaws, with an Appendix that documents 50 actual security flaws. T literature, but in widely separated places. For those new to the field of computer security, they pr how they ...

Keywords: error/defect classification, security flaw, taxonomy

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